

ART. VI.—*Studies in Victorian Spiders, No. 1.*

By L. S. G. BUTLER.

[Read 11th July, 1929; issued separately 31st October, 1929.]

Introduction.

This paper deals with five spiders, the introduced *Oecobius navus* Blackwall, and four others which are new. Three new genera have been erected, *O. navus* has been redescribed, and the families Archæidæ and Palpimanidæ are now recorded from Australia.

The species referred to as *Corasoides australis*, gen. et sp. nov., superficially resembles the European spider *Agelena labyrinthica* Walck. (1), in its habits and the structure of its web. Investigation proves that there is a definite variation. The late Mr. Rainbow (2) recorded *A. labyrinthica* from New South Wales, but its presence in Australia must be doubted until further proof is forthcoming, as the writer is of the opinion that the spider recorded is *C. australis*, sp. nov., or a kindred species.

A new genus near *Arviola* is required to contain *Neoarviola insolens*, gen. et sp. nov. An interesting feature of this minute spider is the position of the spinnerets, which are placed in a transverse row across the posterior end of the abdomen. Two other spiders with this feature have been recorded from Australia, but they belong to the genus *Scotopsilus*.

The most interesting of the series is *Archaca hickmani*, sp. nov., of the family Archæidæ. This unique family was created by C. Koch (3) to contain a few species found in the Baltic amber. For many years it was considered to contain only fossil forms, until Cambridge (4) described a living form from Madagascar. Recently Hewitt (5) recorded a second living form from South Africa, and the present species from Victoria is the third recent spider of this rare family. By its presence in the Baltic amber it will be seen that the family is an ancient one; being of the Oligocene period, the age of these fossils can be counted in millions of years.

The species *Sternodes foraminatus*, gen. et sp. nov., is placed in the family Palpimanidæ as Petrunkevitch (6) has moved the *Hermippeæ* group, which contains this new genus, into this family. None of this group has been previously recorded from this continent, with the result that *S. foraminatus* is the first record of the family Palpimanidæ in Australia. It has an uncommon shaped sternum, also found in an American spider, *Dysdera interrita*, as figured by Comstock (7, p. 298). Other Victorian spiders with this feature in the writer's collection will be described later.

The introduced and almost cosmopolitan species *Oecobius navus* Blackwall, was originally described from specimens found on the Island of Madeira. Blackwall gives a very detailed description of the colour pattern, but includes very little else. In view of the absence in the paper of any figures, the incomplete description, and the fact that it was described from an immature form, it has been considered necessary to redescribe this small species.

Comstock's (7) terminology has been mainly used, and the classification of Petrunkevitch (6) has been followed. All measurements are in millimetres. The total length does not include the chelicerae.

The types, which are in the author's collection, stored in glass tubes that have been sealed by fusing with heat (8), will shortly be presented to the National Museum, Melbourne.

The author acknowledges the help given in translating keys and other detail by the Rev. E. Nye, of Wesley College, and Mr. C. Oke.

### Family AGELENIDAE.

#### Sub-family AGELENINAE.

#### Genus *Corasoides*, nov.

Spinnerets normal. Eyes eight, in two rows of four, A.M.E. largest. Anterior row slightly procurved, posterior row more strongly procurved. Clypeus broad. Inferior margin of the chelicera has six teeth. Legs strong and robust.

#### *CORASOIDES AUSTRALIS*, gen. et sp. nov.

(Text-Fig. 1, Nos. 1-5.)

#### *Female.*

Total length 12.8 mm. Length of cephalothorax 6.0 mm. Breadth of cephalothorax 4.5 mm. Length of abdomen 6.8 mm. Breadth of abdomen 5.0 mm. Length of chelicera 3.6 mm. Breadth of chelicera 2.1 mm.

Cephalothorax.—Longer than broad, front square, sides constricted near the coxae of the first pair of legs, posterior edge hollowed at the pedicel. Head elevated, sloping down to a well-marked cervical groove. Ocular area evenly spread. Hairs on the top and front of the head. Thorax convex.

Eyes.—Eight, evenly spaced in two rows of four, both lines are procurved, posterior line more strongly so. A.M.E. largest, circular, others elliptical. All hyaline, and of a pale amber colour, A.M.E. 0.24 mm., P.M.E. 0.18×0.14 mm., A.L.E. 0.24×0.16 mm., P.L.E. 0.2×0.08 mm.

Chelicera.—Formidable, robust, a distinct boss is present.

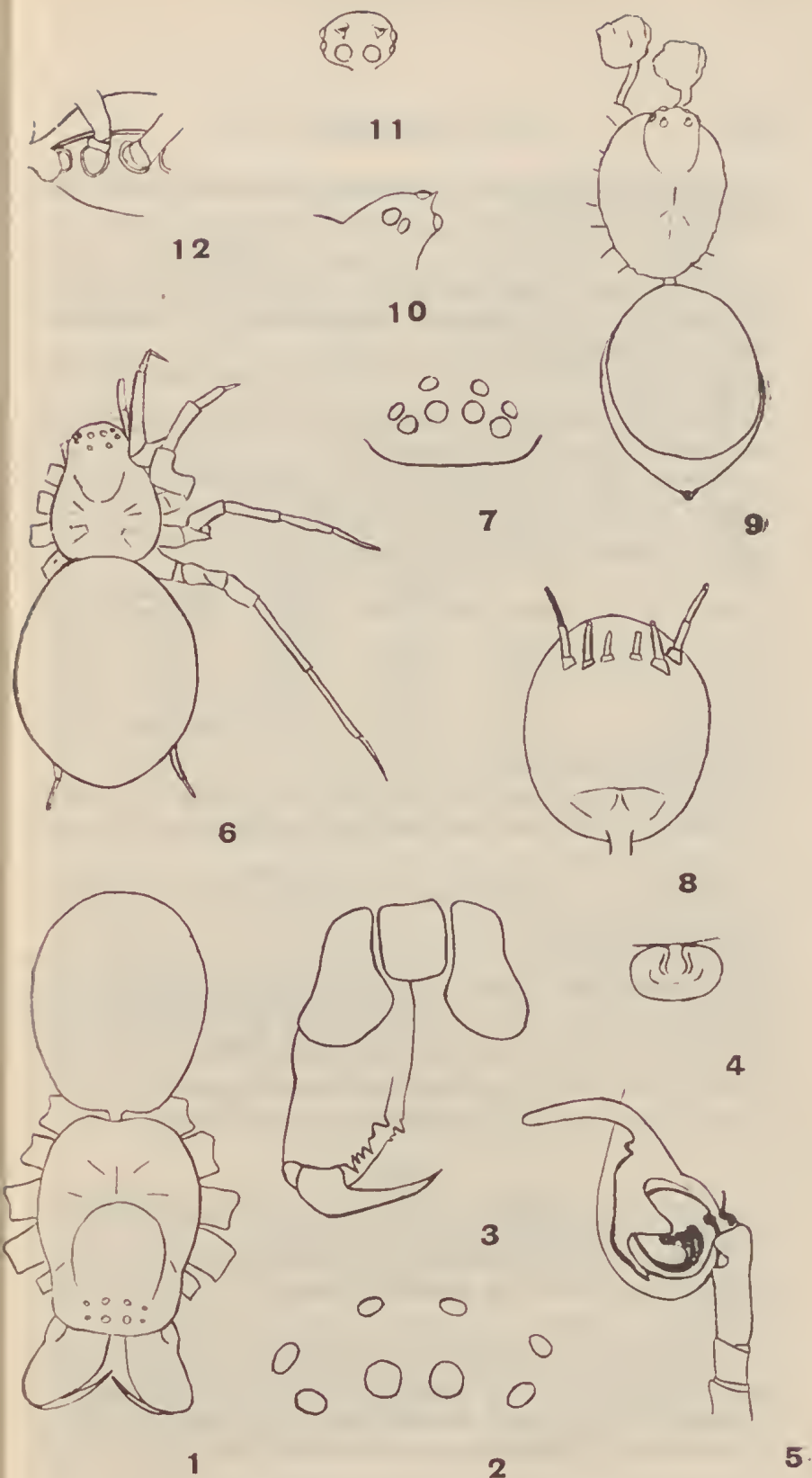


FIG. 1.—1-5, *Corasoides australis*, sp. nov. 1, Dorsal view of female. 2, Eyes of female, viewed from the front. 3, Chelicera, endites, and labium of female. 4, Epigynum of female. 5, Tarsal bulb of male. 6-8, *Neosavio a insolens*, sp. nov. 6, Dorsal view of female. 7, Eyes viewed from the front. 8, Ventral view of abdomen. 9-12, *Steruodes foraminatus*, sp. nov. 9, Dorsal view of female. 10, Eyes, lateral view. 11, Eyes, front view. 12, Posterior end of sternum, lateral view.

Superior margin, four teeth, scattered; inferior margin, six teeth, straight. Claw strong.

Labium.—Free, longer than broad, scopulated.

Endites.—Longer than broad, tapering to rear, broad and well curved in front, inner margins scopulated, outer curve has a serrula. This is not easily seen unless prepared for a microscopic mount in Canada balsam.

Sternum.—Broad as long, front square, broad, at the posterior end is a point.

Pedipalps.—Ending in a pectinated claw, well clothed with hairs and spines, especially on the tarsi.

Legs.—Long and strong, tarsi have three claws, inferior claw has a few teeth, superior claws well shaped with an even row of teeth. Tarsi no spines, other joints heavy spines present, especially the metatarsi and tibia. Formula, 1.4.2.3.

Leg.	Coxa.	Trochanter and Femur.	Patella and Tibia.	Metatarsus and Tarsus.	Total length.
1 . . . . .	2.1	7.2	8.8	9.0	27.1
2 . . . . .	2.0	6.0	6.0	6.9	20.9
3 . . . . .	1.8	6.8	4.8	6.2	19.6
4 . . . . .	2.1	6.9	7.5	9.0	25.5
Pedipalp . . .	1.0	4.0	3.2	Tarsus 2.8	11.0

Abdomen.—Obovate.

Epigynum.—Convex, oval, the long axis placed transversely, two lines of chitin form the central pattern at the top of which is a cream marking.

Spinnerets.—Anterior pair short and thick, the posterior slightly longer with the ends curving inwards, the medians are short and are hidden.

Colour in Alcohol.—Cephalothorax yellow fawn with grey markings, margins brown. Legs yellow fawn. Chelicera dark brown, boss paler. Abdomen with a black band half the width of the body situated on the dorsal part; this band has cream spots on the outer margin and a faint stripe in the centre. Sides grey. Ventral surface has grey margins; from the epigastric furrow to a position in front of the spinnerets is a rectangular pattern of cream with two grey stripes.

#### Male.

A little more slender than the female; other than the generative organs, the descriptions are nearly parallel.

Epigynum.—The presence of a few hairs on the centre of the anterior margin of the epigastric furrow is the only detail visible.

Pedipalps.—The cymbium has a lengthy prolongation equal to the length of its base. The ejaculatory duct is almost as long as the cymbium with its prolongation; it sweeps around the cymbium in a long curve, tapering off to a very long fine point.

Localities.—Cheltenham, near the Benevolent Home, 12.4.25.

Waddy Point, near Bark Hill Farm, on the shores of Lake Victoria, twelve miles from Bairnsdale, Victoria. 10.1.29. Type locality, Cheltenham.

Field Notes.—The webs of this spider can be found among low-growing bushes and grass growing in sandy soil. About nine inches from the ground attached to the grass and other objects is a mass of gny ropes, spun in all and every direction. This forms the upper portion of the web. This entanglement retards the flight of insects, which fall into a delicately woven sheet, spun parallel to the ground. The sheet, which measures eight inches by three inches, takes a turn at one end. It is at this position the occupant generally lurks. After the turn the sheet takes the form of a funnel shape, which tapers down to a tube and enters an underground burrow. The silk in this tube is of an uncommon weave. To the naked eye it is similar to muslin, having a definite weft and warp at right angles to each other; under magnification it becomes irregular, owing to an overlapping of its layers. One of these layers isolated exhibits a true square mesh of a width of 0.8 mm. The burrow is five inches in depth, and is partially lined with silk.

The female collected near Bairnsdale in January was dug out of its burrow; a cavity was excavated at one side of the tube, and here the spider was found guarding two egg-bags. They measured 14 and 12 mm. in diameter, and are dark in colour, owing to the presence of sand grains woven in the outer layer.

#### Sub-family HAHNIINAE.

#### Genus *Neoaviola*, nov.

Cephalothorax oval, slightly constricted and blunted in front. Head convex, cervical groove procurved. Eyes eight, separated, in two procurved rows, the posterior row more strongly procurved. A.M.E. largest. Spinnerets in a transverse row closely resembling the genus *Aviola*.

NEOAVIOLA INSOLENS, gen. et sp. nov.

(Text-fig. 1, Nos. 6-8.)

#### *Female.*

Total length, 1.72 mm. Length of cephalothorax to overhang of abdomen, 0.64 mm. Breadth of cephalothorax, 0.56 mm. Length of abdomen, 1.08 mm. Breadth of abdomen, 0.91 mm.

Cephalothorax.—Oval, slightly constricted and blunted in front. Head convex, well raised above the thorax, the front and sides slope abruptly to the outer margin, the posterior slope being less accentuated, cervical groove strongly procurved. Thorax broad, slightly convex. A few hairs are present on the head.

Eyes.—Eight, separated. Viewed from the front they are in two procurved rows, the posterior row more strongly so. A.M.E. largest, spherical, dark in colour, others elliptical, with a reflex-

tion from the tapetum giving them a bluish pearl-like colour. A.M.E. 0.05 mm. P.M.E. 0.05×0.037 mm. A.L.E. 0.05×0.031 mm. P.L.E. 0.05×0.29 mm.

Chelicera.—Small, weak, sloping down abruptly from the clypeus.

Labium.—Free, short, broader than long.

Endites.—Broader than long, curving inwards around the labium; at this point the corner is blunted and black in colour.

Sternum.—Convex, slightly broader than long.

Pedipalps.—Short, weak, sparsely clothed with thick hairs.

Legs.—Sparsely clothed with thick hairs. The three claws are not pectinated. Formula 4.1.2.3.

Leg.	Coxa.	Trochanter and Femur.	Patella and Tibia.	Metatarsus and Tarsus.	Total length.
1 . . . . .	0.2	0.54	0.5	0.53	1.77
2 . . . . .	0.19	0.48	0.47	0.6	1.74
3 . . . . .	0.2	0.48	0.46	0.58	1.72
4 . . . . .	0.21	0.7	0.58	0.8	2.29

Abdomen.—Obovate, slightly overhanging the cephalothorax.

Epigynum.—The rich brown of the chitin is conspicuous, but the shape and detail are indefinite.

Spinnerets.—Well separated in a broad, nearly straight line. All have a definite base, median and anterior single jointed, posterior two joints. Relative lengths, posterior (outer) 0.35 mm., anterior (intermediate) 0.21 mm., median 0.15 mm.

Colour in Alcohol.—Cephalothorax, dull yellow brown; the clypeus and the sectors between the radial striae are darker. Legs, pedipalps and sternum, dark grey with light fawn. Abdomen dark grey with yellowish spots; on the dorsum these spots form four letter Vs, with the apex pointing forwards.

Type Locality.—Whittlesea, at the base of the hill leading to Kinglake, about 25 miles from Melbourne, September, 1927.

Field Notes.—Habits unknown; collected by shaking shrubs into an umbrella.

The male is unknown.

### Family ARCHAEIDAE.

#### Sub-family ARCHAEINAE.

#### Genus *Archaea* C. Koch.

(in Berendt, *Organ. Reste in Bernst.*, i., 1854.)

#### *ARCHAEA HICKMANI*, sp. nov.

(Text-Fig. 2, Nos. 1-5.)

#### *Female.*

Total length, 3.0 mm. Length of head, 0.95 mm. Breadth of head, 0.7 mm. Length of chelicera, 1.6 mm. Breadth of cheli-

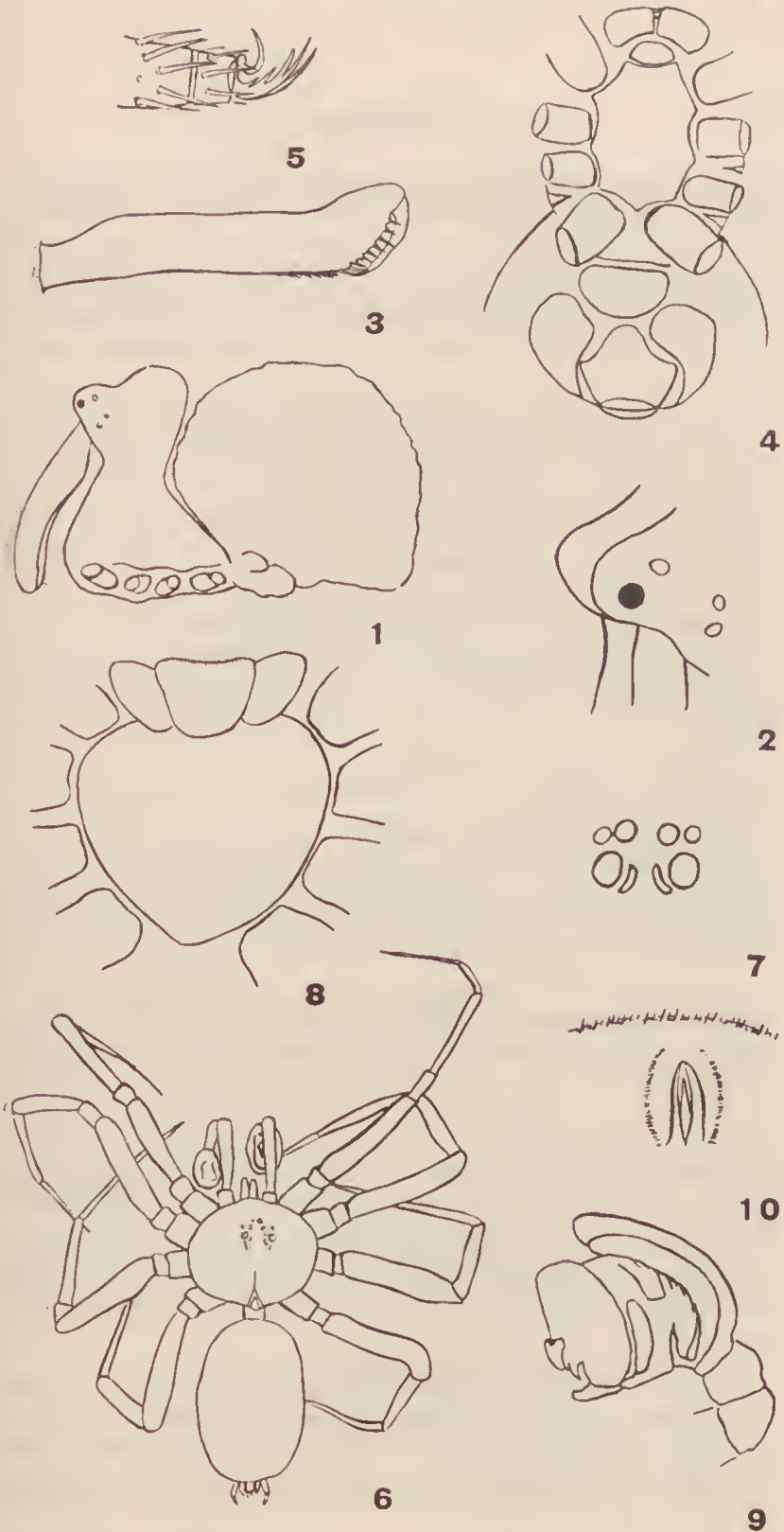


FIG. 2.—1-5, *Archaea hickmani*, sp. nov. 1, Lateral view of female with legs truncated. 2, Eyes, lateral view. 3, Chelicera. 4, Ventral view of female. 5, Tarsi, showing three claws.  
6-10, *Oecobius navus* Blackw. 6, Dorsal view of male. 7, Eyes, viewed from above. 8, Sternum, and mouth parts. 9, Tarsal bulb of male. 10, Epigynum of female.

cera at widest part, 0.28 mm. Length of claw of the chelicera, 0.35 mm. Length of abdomen, 2.0 mm. Breadth of abdomen, 1.45 mm.

Cephalothorax.—Thorax short, broad, convex. Head elevated abruptly above, joined by a thick neck, head has an erect attitude, top of head highly arched. Forehead has a convex protuberance each side. Fawn colour hairs are spaced evenly over the carapace.

Eyes.—Eight, placed in two somewhat rectangular groups of four, each side of head. A.M.E. largest, on small tubercles, dark colour. Others reflect light as a golden colour from tapetum. A.M.E. 0.08 mm. P.M.E. 0.065 mm. A.L.E. 0.04 mm. P.L.E. 0.04 mm. Width between eyes.—A.M.E. 0.4 mm. P.M.E. and P.L.E. 0.15 mm. A.M.E. and A.L.E. 0.21 mm. A.M.E. and P.M.E. 0.06 mm. A.L.E. and P.L.E. 0.05 mm.

Chelicera.—Very long, robust, inner margin heavily spined near claw. Claw curved, end curving abruptly inwards.

Labium.—Short, set at right angles to sternum.

Endites.—Lightly scopulated; on the upper side in the centre is a short, cylindrical process; the coxa of the pedipalp joins this process.

Sternum.—Longer than broad.

Epimera.—Taper to a point between the coxae of the legs, posterior epimera longer.

Pedipalps.—Short, claw wanting.

Legs.—Formula 1.4.2.3. Three claws, major 0.05 mm., minor 0.02 mm., major claws, with three teeth, first tooth very long, third very short, second tooth an even graduation between the two. Hairs on tarsi have small serrations.

Leg.	Coxa.	Trochanter and Femur.	Patella and Tibia.	Metatarsus and Tarsus.	Total length.
1 . . . . .	0.4	1.85	2.0	1.0	5.25
2 . . . . .	0.3	1.4	1.4	0.8	3.9
3 . . . . .	0.25	1.25	1.1	0.9	3.5
4 . . . . .	0.3	1.7	1.45	1.1	4.55

Abdomen.—Globular, tapering to a blunted point at spinnerets, cuticle rugose. Book lung plates anterior end semi-circular, taper to a point at rear curving inwards.

Epigynum.—Convex plate, widens out at half its length; it is then abruptly pinched in, tapers to a blunted end in front. The opening at the posterior end is edged on each side with a half-round edging.

Spinnerets.—Rosette shape, anterior 2 mm. long.

Colour in Alcohol.—Cephalothorax, chelicera and legs, brown, with darker markings. Abdomen light and dull fawn.

Locality.—Victoria, date about 1922. Unfortunately this is the only information available.

Field Notes.—No information available. It will be of interest



to note that Hewitt (5, p. 202) records that the South African species was found under stones in the damp bush, along with other creatures as land crustaceans, molluscs and peripatus.

The male is unknown.

This species is dedicated to the Tasmanian Arachnologist, V. V. Hickman, B.A., B.Sc., to whose assistance the writer is greatly indebted.

Family OECOBIIDAE.

Genus *Oecobius* Lucas.

(*Expl. Alg., Ar.*, 1845-48, p. 101.)

*OECOBIVS NAVUS* Blackwall.

(Text-Fig. 2, Nos. 6-10.)

*Oecobius navus* Blackwall, Ann. Mag. Nat. Hist., iv. (3), 1859, p. 266. Simon. Hist. Nat. des Araignées. i., 1892, p. 264. Rainbow. Rec. Austr. Mus., vi. (1), 1905, p. 11. Butler, Vic. Nat., xlii., Dec., 1925, pp. 208-9, 1 pl.

*Female.*

Total length, 2.75 mm. Length of cephalothorax, 0.9 mm. Breadth of cephalothorax, 1.1 mm. Length of abdomen, 1.85 mm. Breadth of abdomen, 1.5 mm.

Cephalothorax.—Oval, convex, broader than long, pointed front and rear. Ocular area central, elevated; a few coarse hairs are present nearby.

Eyes.—Eight, in two rows of four, anterior row slightly re-curved, posterior row procurved, P.M.E. crescent shape with blunted ends, others circular, all evenly spaced. A.M.E., 0.06 mm. P.M.E. elongated, 0.09×0.03 mm. A.L.E. 0.04 mm. P.L.E., 0.085 mm.

Chelicera.—Cylindrical, tapering, claw evenly curved.

Labium.—Flat, broader than long, narrowed at rear, with blunted corners.

Endites.—Overlap on to the sternum.

Pedipalps.—Short, robust, ending with a pectinated claw.

Sternum.—Cordate, sparsely clothed with dark hair.

Legs.—Medium length, three claws all pectinated. Formula, 4.1.3.2.

Leg.	Coxa.	Trochanter and Femur.	Patella and Tibia.	Metatarsus and Tarsus.	Total length.
1 . . . . .	0.3	1.0	0.9	1.1	3.3
2 . . . . .	0.3	1.0	0.9	1.0	3.2
3 . . . . .	0.25	1.0	0.9	1.1	3.25
4 . . . . .	0.2	1.0	1.0	1.15	3.35
Pedipalp . . . .	0.1	0.4	0.3	Tarsus 0.3	1.1

Calamistrum.—Half the length of the metatarsus.

Abdomen.—Obovate, sparsely clothed with hairs. Epigastric furrow faintly marked.

Epigynum.—Flat, inside a central depression, a thin, flat, pointed process protects the genital aperture. The whole is isolated from the epigastric furrow, the chitin is pale brown.

Spinnerets.—Visible from above; posterior with two articulations, the last joint curves inwards with short spinning tubes on the inner surface. Length: posterior, 1.5 mm., anterior 0.4 mm., median 0.1 mm.

Cribellum.—Undivided, anterior edge procurved, bordered with a thin chitinous line, marked with a central notch.

Anus.—Placed between the posterior spinnerets, it is a short cylindrical column with a flat oval top, bordered with a palisade of long, evenly-spaced hairs. These hairs have a sharp bend outwards at a position of half of their length.

Colour in Alcohol.—Cephalothorax glossy, fawn with light grey markings, a large V shape marking of black almost hides the eyes. Legs and sternum pale yellow-fawn. Abdomen pale yellow-fawn, marked with black and white, forming a variable pattern. White spots are visible on the underside of the abdomen.

#### Male.

This corresponds to the female in nearly all the detail other than the reproductive organs. The calamistrum cannot be found. If it does exist it must be poorly developed. Cribellum visible, but not so well marked.

Epigynum.—Has no external markings.

Tarsal Bulb.—Has the simple spoon-shaped cymbium, with a very small development of the paracymbium. The genital bulb appears to have three divisions, superficially somewhat similar to the bulb of the genus *Linyphia*, which is of a simple type of the specialised form of palp.

Localities in Australia.—Sydney, Adelaide (collected by Dr. R. H. Pulliène), and Melbourne.

Habitat.—As its name implies, it is a house dweller. Its home is a thin, almost invisible, sheet, about one inch in size, spun over small depressions or in the angles of the walls of houses; this web is more conspicuous when old and covered with dust.

### Family PALPIMANIDAE.

#### Sub-family HERMIPPINAE.

#### Genus *Sternodes*, nov.

Eyes eight, in two recurved rows, A.M.E. largest. Head elevated. Three claws, inferior claw very small. Male tarsi large, globular. Sternum completely surrounds the coxae of each leg. Labium small, attached to a small extension of the sternum. Scopulae on the tarsi are wanting.

STERNODES FORAMINATUS, gen. et sp. nov.

(Text-Fig. 1, Nos. 9-12.)

*Male.*

Total length, including spinnerets, 2.83 mm. Length of cephalothorax, 1.28 mm. Breadth of cephalothorax, 0.96 mm. Length of pedicel, 0.04 mm. Length of abdomen, 1.38 mm. Breadth of abdomen, 1.1 mm. Length of spinnerets, 0.13 mm.

Cephalothorax.—Convex, oval, broad in front, tapers at rear. Clypeus vertical, wide. Head elevated. Ocular area projecting sharply forward, and upwards. Thorax sloping abruptly at rear. Carapace slightly rugose.

Eyes.—Eight, anterior row recurved, posterior row recurved less. A.M.E. largest, dark colour, all others are pearl like in colour, laterals close together, elliptical. A small prominent spine projects forward in front of the P.M. Eyes. A.M.E. spherical, 0.11 mm. P.M.E. spherical, 0.08 mm. A.L.E. elliptical, 0.08 × 0.06 mm. P.L.E. elliptical, 0.10 × 0.08 mm.

Chelicera.—Follows the same plane as the clypeus, it is short and tapers to the claw, which is small and curved.

Labium.—Triangular, attached to a small extension of the sternum.

Endites.—Small, curving inwards, lightly scopulated.

Sternum.—Longer than broad, slightly rugose. The coxa of each leg is completely surrounded by the extensions of the sternum, the upper margin of the sternum meets the margin of the dorsal carapace in a parallel line.

Pedipalps.—Short, coxae and trochanter thin, other joints thicker. Tarsal bulb large, spherical, on which complex detail is visible. Cymbium broad, hemispherical. Ejaculatory duct very short.

Legs.—Medium length. Coxae cylindrical, with a slight taper at each end. Three claws are present; the superior pair are dentated with an even row of long teeth, all of which are even in length with the claw. Inferior claw smooth, small. Tarsi are devoid of scopulae. Formula 1.2.4.3.

Leg.	Coxa.	Trochanter and Femur.	Patella and Tibia.	Metatarsus and Tarsus.	Total length.
1 . . . . .	0.36	1.25	1.36	1.0	3.97
2 . . . . .	0.32	1.12	1.04	1.16	3.64
3 . . . . .	0.24	0.88	0.92	0.8	2.84
4 . . . . .	0.24	1.08	1.16	1.12	3.6

Abdomen.—Obovate, dorsum covered half the length with a translucent chitinous plate. The ventral side is covered in a similar manner. This plate is connected with the pedicel. In the centre of the ventral plate is the epigastric furrow, and

over the book lungs are furrows. At the posterior end of the abdomen, a chitinous ring encircles the spinnerets, colulus, and the anus.

Epigynum.—Double convex opening.

Spinnerets.—Visible from above, short, inferior conical, superior cylindrical, medians appear to be missing; it would be necessary to dissect the only specimen to definitely prove this. A small colulus is present.

Colour in Alcohol.—Cephalothorax, chelicera, dorsal and ventral plates of the abdomen, a rich brown, legs slightly paler. The integument of the abdomen is cream in colour with pale grey markings.

Type Locality.—Whittlesea, at the base of the hill leading to Kinglake, about twenty miles from Melbourne. Date of collecting, September, 1927.

Field Notes.—Habits unknown; collected by shaking shrubs into an umbrella.

The female is unknown.

#### References to Literature.

1. WALCKENAER. *Hist. Nat. des Ins. Apteres*, ii., p. 500, 1837.
2. W. J. RAINBOW. Descriptions of some new Araneidae of New South Wales, No. 8. *Proc. Linn. Soc. N.S. Wales*, xxiii. (3), p. 528, 1897.
3. C. KOCH. Berendt, *Organ. Reste in Bernst.*, i., 1854.
4. O. P. CAMBRIDGE. *Proc. Zool. Soc. Lond.*, 1881, p. 767, pl. lxvi., figs. 2a-f; also SIMON in *Hist. Nat. des Araig.*, i., p. 935, figs. 32, 1005, and 1006.
5. J. HEWITT. Descriptions of New South African Spiders. *Rec. Albany Mus.*, iii., p. 196, 1919.
6. A. PETRUNKEVITCH. *Systema Araneorum. Conn. Acad. Arts and Scs.*, New Haven, Conn., U.S.A., xxix., pp. 1-270, Jan. 1928.
7. J. H. COMSTOCK. *Spider Book*, New York, U.S.A., 1913.
8. L. S. G. BUTLER. A permanent method of storing valuable Natural History specimens. *Aust. Mus. Mag.*, iii. (11), pp. 364-5, 1929.